UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

In the Matter of **CERTAIN LIGHT EMITTING DIODES AND PRODUCTS CONTAINING SAME**	**Investigation No. 337-TA-___**

COMPLAINT OF LG ELECTRONICS, INC. AND LG INNOTEK CO., LTD. UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED

COMPLAINANTS

LG Electronics, Inc.
LG Twin Towers
20, Yeouido-dong
Yeongdungpo-gu
Seoul, 150-721
South Korea

LG Innotek Co., Ltd.
Seoul Square 20F
Namdaemunno 5-ga
Jung-gu
Seoul 100-714
South Korea

PROPOSED RESPONDENTS

OSRAM Gmbh
Hellabrunner Strasse 1
81543 Munich
Germany

OSRAM Sylvania Inc.
100 Endicott Street
Danvers, MA
USA

OSRAM Opto Semiconductors Gmbh
Leibnizstr 4
93055 Regensburg
Germany

COUNSEL FOR COMPLAINANTS

Vincent P. Kovalick
Smith R. Brittingham IV
Eric J. Fues
Elizabeth A. Niemeyer
Maximilienne Bishop
Finnegan, Henderson, Farabow,
Garrett, & Dunner L.L.P.
901 New York Avenue, N.W.
Washington, DC 20001-4413
Telephone: (202) 408-4000
Facsimile: (202) 408-4400

TABLE OF CONTENTS

TABLE OF EXHIBITS

Exhibit	Document
1A	United States Patent No. 7,928,465
1B	United States Patent No. 7,956,364
1C	United States Patent No. 6,841,802
1D	United States Patent No. 7,649,210
1E	United States Patent No. 7,884,388
1F	United States Patent No. 7,821,024
1G	United States Patent No. 7,868,348
1H	United States Patent No. 7,768,025
2A	Assignment Documents for the '465 patent
2B	Assignment Documents for the '364 patent
2C	Assignment Documents for the '802 patent
2D	Assignment Documents for the '210 patent
2E	Assignment Documents for the '388 patent
2F	Assignment Documents for the '024 patent
2G	Assignment Documents for the '348 patent
2H	Assignment Documents for the '025 patent
3A	Table Identifying Foreign Counterparts of the '465 Patent
3B	Table Identifying Foreign Counterparts of the '388 Patent
3C	Table Identifying Foreign Counterparts of the '024 Patent
3D	Table Identifying Foreign Counterparts of the '348 Patent
3E	Table Identifying Foreign Counterparts of the '025 Patent
4	CONFIDENTIAL Identification of Licensees
5A	Claim Charts: Infringement of '465 patent by OSRAM devices
5B	Claim Charts: Infringement of '364 patent by OSRAM devices
5C	Claim Charts: Infringement of '802 patent by OSRAM devices
5D	Claim Charts: Infringement of '210 patent by OSRAM devices

5E	Claim Charts: Infringement of '388 patent by OSRAM devices
5F	Claim Charts: Infringement of '024 patent by OSRAM devices
5G	Claim Charts: Infringement of '348 patent by OSRAM devices
5H	Claim Charts: Infringement of '025 patent by OSRAM devices
6A	Documents and Photographs of representative accused infringing OSRAM devices demonstrating specific instance of importation and sale
6B	Additional Documents and Photographs of representative accused infringing OSRAM devices demonstrating specific instance of importation and sale
7A	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '465 patent
7B	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '364 patent
7C	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '802 patent
7D	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '210 patent
7E	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '388 patent
7F	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '024 patent
7G	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '348 patent
7H	CONFIDENTIAL Claim Chart in Support of Domestic Industry for the '025 patent
8	CONFIDENTIAL Domestic Industry Investments Related to the Asserted Patents

TABLE OF APPENDICES

Patent No. 7,868,348

P Copies of References Cited in the Prosecution History of United States Patent No. 7,768,025

P1 Physical Sample of OSRAM LED4PAR16/830/NFL20/RP

I. INTRODUCTION

1. This Complaint is filed by LG Electronics, Inc. ("LGE") and LG Innotek Co., Ltd. ("LG Innotek") (collectively, "LG") under Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, based on the unlawful importation into the United States, the sale for importation, and the sale within the United States after importation by owners, importers, or consignees of certain light emitting devices and products containing same that infringe any of U.S. Patent No. 7,928,465 (the "'465 patent"); U.S. Patent No. 7,956,364 (the "'364 patent"); U.S. Patent No. 6,841,802 (the "'802 patent"); U.S. Patent No. 7,649,210 (the "'210 patent"); U.S. Patent No. 7,884,388 (the "'388 patent"); U.S. Patent No. 7,821,024 (the "'024 patent"); U.S. Patent No. 7,868,348 (the "'348 patent"); U.S. Patent No. 7,768,025 (the "'025 patent") (sometimes collectively referred to as "the asserted patents").

2. The proposed respondents are OSRAM GmbH, OSRAM Sylvania Ltd. ("Sylvania"), and OSRAM Opto Semiconductors GmbH (collectively, "OSRAM").

3. Certified copies of the '465, '364, '802, '210, '388, '024, '348, and '025 patents are attached as Exhibits 1A–1H. LG owns all right, title, and interest in each of the asserted patents.

4. Certified copies of the assignments for the '465, '364, '802, '210, '388, '024, '348, and '025 patents are attached to the Complaint as Exhibit 2A-2H.

5. An industry as required by 19 U.S.C. § 1337(a)(2) and (3) exists in the United States relating to the technology protected by the asserted patents.

6. LG seeks, as relief, an exclusion order barring from entry into the United States infringing light emitting devices and products containing same manufactured and/or imported by or on behalf of the proposed respondent. LG also seeks, as relief, cease-and-desist orders prohibiting the sale for importation, importation, sale after importation, offer for sale,

advertising, testing, the solicitation of sales, and other commercial activity relating to infringing light emitting diodes and products containing same.

II. COMPLAINANTS

A. LG Electronics Inc.

7. Complainant LGE is a Korean company with its principal place of business at LG Twin Towers, 20, Yeouido-dong, Yeongdungpo-gu, Seoul, 150-721, South Korea.

8. LGE is a global leader and technological innovator that designs, develops, manufactures, and sells products containing light emitting devices, including consumer electronics. LGE's prowess at technological innovation has rapidly transformed it into one of the world's largest electronics companies. Among its product lines, LGE designs and develops light emitting devices included in cellular devices such as mobile phones that use the same technology protected by the asserted patents.

9. LGE operates facilities throughout the United States and has invested significant resources into domestic research and development, design, quality control, testing, and technical support for the products that embody the asserted patents.

B. LG Innotek Co., Ltd.

10. Complainant LG Innotek is a Korean corporation with its principal place of business at Seoul Square 20F, Namdaemunno 5-ga, Jung-gu, Seoul 100-714, Korea.

11. LG Innotek, a subsidiary of LGE, designs and manufactures light-emitting devices, including light emitting diodes ("LEDs"). LG Innotek sells its LEDs to, among others, LGE.

III. RESPONDENTS

A. OSRAM GmbH

12. Respondent Osram GmbH is a German corporation with its principal place of business at Hellabrunner Strasse 1, 81543 Munich, Germany. Upon information and belief,

OSRAM GmbH is involved in at least the design, development, manufacture, and distribution of light emitting diodes and products containing same in the United States.

B. OSRAM Sylvania Ltd.

13. Respondent Sylvania is Delaware corporation with its offices and principal place of business located at 100 Endicott Street, Danvers, MA. Upon information and belief, Sylvania is involved in at least the design, development, manufacture, and distribution of light emitting diodes and products containing same in the United States.

C. OSRAM Opto Semiconductors GmbH

14. OSRAM Opto Semiconductors GmbH is a corporation organized under the laws of Germany with its principal place of business at Leibnizstr 4, 93055 Regensburg, Germany. Upon information and belief, OSRAM Opto Semiconductors GmbH is involved in at least the design, development, manufacture, and distribution of light emitting diodes and products containing same in the United States.

IV. TECHNOLOGY AND PRODUCTS-AT-ISSUE

15. The technology and products-at-issue concern semiconductor light emitting devices, including LEDs, which convert electrical current to light. LEDs are widely used in numerous products, including light bulbs, displays, remote control devices, and home appliances. LEDs are widely available in a range of colors such as red, green, yellow, orange, and (more recently) blue.

16. The wavelength (color) of light emitted from an LED depends on the semiconductor material used to fabricate the LED. Gallium nitride (GaN) semiconductor materials are capable of producing blue or green light. In addition, GaN semiconductors may also be used with wavelength converting materials to produce white light. These materials convert the blue light emitted by the GaN semiconductor structure to white light.

17. Because of the advantages of GaN light-emitting devices, the GaN-device industry has rapidly grown. The efficiency of GaN-based light emitting diodes (LEDs) is substantially equal to that of fluorescent lamps.

18. Despite the rapid advancement of GaN semiconductor technology, the fabrication of GaN-based devices remains difficult and costly. Difficulties include problems with growing epitaxial GaN film layers

19. In addition, device fabrication has proven particularly difficult because the GaN-based devices are fabricated on an insulating substrate, and removal of this substrate prior to using the GaN device can cause damage to the GaN material.

20. LG has significantly contributed to the development of semiconductor light emitting devices and improved methods for their fabrication. LG researches continue to investigate ways to improve the light-emitting efficiency of these semiconductor materials and to improve their method of fabrication. The products-at-issue all incorporate one or more of LG's contributions into semiconductor light emitting devices technology.

V. THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTION OF THE INVENTIONS

21. There are eight asserted patents in this Investigation: U.S. Patent No. 7,928,465; U.S. Patent No. 7,956,364; U.S. Patent No. 6,841,802; U.S. Patent No. 7,649,210; U.S. Patent No. 7,884,388; U.S. Patent No. 7,821,024; U.S. Patent No. 7,868,348; and U.S. Patent No. 7,768,025.

A. U.S. Patent No. 7,928,465

1. Identification of the Patent and Ownership by LGE

22. The '465 patent, titled "Method of Fabricating Vertical Structure LEDs" issued on April 19, 2011, to inventors Jong-Lam Lee, In-Kwon Jeong, and Myung Cheol Yoo. The '465

patent is based on application no. 12/797,355, filed on June 9, 2010, which is a continuation of application no. 12,458,703, filed on June 21, 2009, now U.S. Patent No. 7,816,705, and a continuation of application no. 11/002,413, filed on December 3, 2004, now U.S. Patent No. 7,569,865, which is a division of application no. 10/118,316, filed on April 9, 2002.

23. The '465 patent has 1 independent claim and 42 dependent claims. Claims 1-2, 10-11, 13-15, 17-18, 20-23, 26-34, and 36-42 are being asserted in this investigation.

24. LGE owns by assignment the entire right, title, and interest in and to the '465 patent. *See* Exhibit 2A.

25. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '465 patent, including all parent applications, and four copies of each reference cited on the face of the '465 patent or mentioned in its prosecution history. *See* Appendices A and I.

2. Non-Technical Description of the Patent[1]

26. The '465 patent generally concerns light emitting devices having a vertical structure (described more fully below). These devices are mounted on conductive support structures and thus provide enhanced heat dissipation, which is advantageous for devices subject to high electrical currents such as laser diodes and high-power LEDs. The '465 patent further describes a new method for making these light emitting devices.

27. LEDs may be fabricated in either vertical or horizontal (lateral) topology. Vertical structures have electrical contacts on opposite sides of the LED and thus comprise multiple layers in a sandwich-type structure. Horizontal LEDs have electrical contacts spaced laterally apart.

[1] All non-technical descriptions of the inventions herein are presented for general background purposes and are not intended to, and do not, provide claim interpretation information relative to the asserted LG patent claims.

28. Vertical light emitting devices have several advantages over horizontal devices. First, only one metal contact blocks emitted light, while both metal contacts in a horizontal structure block emitted light. In addition, the bottom electrode in a vertical structure may include a reflective material such as silver (Ag) and reflect light that would otherwise be absorbed in a horizontal structure. These factors make vertical light emitting devices more efficient, as they emit more light for the same amount of surface area.

29. Vertical light emitting devices are generally fabricated on insulating substrates such as sapphire, which is removed before the device is used. The '465 patent discloses an improved method for making vertical light emitting devices that provides conductive support upon removal of the insulating substrate. The conductive support both improves mechanical stability during the removal of insulating substrate and improves heat dissipation during post-fabrication device use. The light emitting devices of the '465 patent may be fabricated using this method, providing a multilayer semiconductor structure on a conductive support.

3. Foreign Counterparts to the Patent

30. The '465 patent and its related U.S. applications have a number of foreign counterparts. Those foreign patents and applications, as well as related U.S. applications and patents, are identified in Exhibit 3A.

B. U.S. Patent No. 7,956,364

1. Identification of the Patent and Ownership by LGE

31. The '364 patent, titled "Thin Film Light Emitting Diode," issued on June 7, 2011, to inventor Myung Cheol Yoo. The '364 patent is based on application no. 12/654,992, filed on January 12, 2010, which is a continuation of application no. 11/978,680, filed on October 30, 2007, now U.S. Patent No. 7,649,210, which is a continuation of application no. 10/975,095,

filed on October 28, 2004, now U.S. Patent No. 7,691,650, which is a division of application no. 10/179,010, filed in June 26, 2002, now U.S. Patent No. 6,841,802.

32. The '364 patent has 1 independent claim and 68 dependent claims. Claims 1-12, 14-22, 24-30, 33, 35-36, 38-46, 49-50, 52-54, 57, 60-61, 63, 65-66, and 68-69 are being asserted in this investigation.

33. LGE owns by assignment the entire right, title, and interest in and to the '364 patent. *See* Exhibit 2B.

34. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '364 patent, including all parent applications, and four copies of each reference cited on the face of the '364 patent or mentioned in its prosecution history. *See* Appendices B-D and J.

2. Non-Technical Description of the Patent

35. The '364 patent generally concerns a light emitting device having a vertical structure. The device has a wavelength converting layer that converts light emitted by an LED chip to light having a different wavelength. The devices described in the '364 patent are capable of producing white light. Specifically, an LED chip that emits blue light may be combined with a phosphor layer that converts the blue light to white light.

36. The light emitting device includes a semiconductor structure on a conductive support having an adhesion support layer between the semiconductor structure and the conductive support. This feature improves heat dissipation during post-fabrication device use. The device also has a reflective electrode positioned such that reflects light emitted by the LED chip that would otherwise have been absorbed, increasing the efficiency of the device.

3. Foreign Counterparts to the Patent

37. The '364 patent does not have any foreign counterparts.

C. U.S. Patent No. 6,841,802

1. Identification of the Patent and Ownership by LGE

38. The '802 patent, titled "Thin Film Light Emitting Diode," issued on January 11, 2005, to inventor Myung Cheol Yoo. The '802 patent is based on application no. 10/179,010, filed on June 26, 2002.

39. The '802 patent has 2 independent claims and 22 dependent claims. Claims 1-2, 4, 11, 15, 17-18, 21, and 24 are being asserted in this investigation.

40. LGE owns by assignment the entire right, title, and interest in and to the '802 patent. *See* Exhibit 2C.

41. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '802 patent, including all parent applications, and four copies of each reference cited on the face of the '802 patent or mentioned in its prosecution history. *See* Appendices C and K.

2. Non-Technical Description of the Patent

42. The '802 patent generally concerns a light emitting device that converts light emitted by an LED chip to light having a different wavelength. The device comprises an LED chip that emits light of a certain wavelength combined with a passivation layer and a thin film, such as a phosphor or a tin-containing compound, which converts the light emitted by the LED to light having a different wavelength. An LED chip that emits blue light may be used in such a device to produce an on-chip white light emitting device. The LEDs of the '802 patent can have either a vertical or horizontal topology.

3. Foreign Counterparts to the Patent

43. The '802 patent does not have any foreign counterparts.

D. U.S. Patent No. 7,649,210

1. Identification of the Patent and Ownership by LGE

44. The '210 patent, titled "Thin Film Light Emitting Diode," issued on January 19, 2010, to inventor Myung Cheol Yoo. The '210 patent is based on application no. 11/978,680, filed on October 30, 2007, which is a continuation of application no. 10/975,095, filed on October 28, 2004, now U.S. Patent No. 7,691,650, which is a division of application no. 10/179,010, filed in June 26, 2002, now U.S. Patent No. 6,841, 802 (see section V.C above).

45. The '210 patent has 3 independent claims and 34 dependent claims. Claims 1-4, 6, 8-12, 16-21, 24-29, and 31-37 are being asserted in this investigation.

46. LGE owns by assignment the entire right, title, and interest in and to the '210 patent. *See* Exhibit 2D.

47. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '210 patent, including all parent applications, and four copies of each reference cited on the face of the '210 patent or mentioned in its prosecution history. *See* Appendices C-D and L.

2. Non-Technical Description of the Patent

48. The '210 patent generally concerns a light emitting device that converts light emitted by an LED chip to light having a different wavelength. The device comprises an LED chip that emits light of a certain wavelength combined with a thin film, such as a phosphor or a tin-containing compound, which converts the light emitted by the LED to light having a different wavelength (i.e., a different color). An LED chip that emits blue light may be used in such a device to produce an on-chip white light emitting device. The LED device may have a passivation layer deposited between the LED chip and the thin film layer. The LEDs of the '210 patent can have either vertical or horizontal structures.

3. Foreign Counterparts to the Patent

49. The '210 patent does not have any foreign counterparts.

E. U.S. Patent No. 7,884,388

1. Identification of the Patent and Ownership by LG Innotek

50. The '388 patent, titled "Light Emitting Diode Having a First GaN Layer and a First Semiconductor Layer Each Having a Predetermined Thickness and Fabrication Method Thereof," issued on February 8, 2011, to inventor Seong Jae Kim. The '388 patent is based on application no. 12/624,404, filed on November 3, 2009, which is a continuation of application no. 11/889,579, filed on August 14, 2007, which is a division of application no. 11/333,247, filed on January 18, 2006, now U.S. Patent No. 7,531,827. The '388 patent also claims priority to Korean Patent Application No. 2003-48993, filed on July 18, 2003, and is under the benefit of P.C.T Application No. PCT/KR04/01687, filed on July 9, 2004.

51. The '388 patent has five independent claims and 50 dependent claims. Claims 1-4, 6-10, 13-17, 19, 22-29, 32, 40, 42-45, and 48 are being asserted in this investigation.

52. LG Innotek owns by assignment the entire right, title, and interest in and to the '388 patent. *See* Exhibit 2E.

53. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '388 patent, including all parent applications, and four copies of each reference cited on the face of the '388 patent or mentioned in its prosecution history. *See* Appendices E and M.

2. Non-Technical Description of the Patent

54. The '388 patent provides an improved GaN semiconductor device. The '388 patent incorporates a GaN layer with a low concentration of indium between the n-type GaN layer and

the active layer. This reduces the inconsistency of the lattice constants in the n-type GaN and active layers, thereby increasing light efficiency and improving device reliability.

55. The '388 patent provides additional advantages. Traditional semiconductor structures have a two-dimensional interface between the n-GaN and active layers. The '388 patent discloses that the GaN layer having a low concentration of indium may be formed using the quantum well growing method, resulting in three-dimensional surface growth. The three-dimensional structure at the interface improves light efficiency.

3. Foreign Counterparts to the Patent

56. The '388 patent and its related U.S. applications have a number of foreign counterparts. Those foreign patents and applications, as well as related U.S. applications and patents, are identified in Exhibit 3B.

F. U.S. Patent No. 7,821,024

1. Identification of the Patent and Ownership by LG Innotek

57. The '024 patent, titled "Semiconductor Light Emitting Device Having Roughness Layer," issued on October 26, 2010, to inventor Hwan Hee Jeong. The '024 patent is based on application no. 12/340,354, filed on December 19, 2008. The '024 patent also claims priority to Korean Patent Application No. 10-2007-0133919, filed on December 20, 2007.

58. The '024 patent has three independent claims and 26 dependent claims. Claims 10-13, 19, 24-25, and 29 are being asserted in this investigation.

59. LG Innotek owns by assignment the entire right, title, and interest in and to the '024 patent. *See* Exhibit 2F.

60. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '024 patent, including all parent applications, and four copies of each

reference cited on the face of the '024 patent or mentioned in its prosecution history. *See* Appendices F and N.

2. Non-Technical Description of the Patent

61. The '024 patent generally concerns a semiconductor light-emitting device having a roughness layer on a surface of the semiconductor structure. The roughness layer includes multiple horn-shaped structures that change the incident angle of light emitted from the active layer, thereby enhancing light emission efficiency.

3. Foreign Counterparts to the Patent

62. The '024 patent and its related U.S. applications have a number of foreign counterparts. Those foreign patents and applications, as well as related U.S. applications and patents, are identified in Exhibit 3C.

G. U.S. Patent No. 7,868,348

1. Identification of the Patent and Ownership by LGE and LG Innotek

63. The '348 patent, titled "Light Emitting Device Having Vertical Structure and Method for Manufacturing the Same," issued on January 11, 2011, to inventors Jun Ho Jang and Jun Seok Ha. The '348 patent is based on application no. 12/718,937, filed on March 5, 2010, which is a continuation of application no. 11/706,977, filed on February 16, 2007, now U.S. Patent No. 7,700,966. The '348 patent also claims priority to Korean Patent Application Nos. 10-2006-0015037 and 10-2006-0015038, both filed on February 16, 2006.

64. The '348 patent has one independent claim and 30 dependent claims. Claims 1-2, 8-10, 12, 14, 18, and 20-24 are being asserted in this investigation.

65. LGE and LG Innotek own by assignment the entire right, title, and interest in and to the '348 patent. *See* Exhibit 2G.

66. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '348 patent, including all parent applications, and four copies of each reference cited on the face of the '348 patent or mentioned in its prosecution history. *See* Appendices G and O.

2. Non-Technical Description of the Patent

67. The '348 patent generally concerns vertical semiconductor light-emitting devices having improved light emission efficiency and light escape efficiency and a method for making them. The semiconductor devices include a semiconductor structure having an inclined side surface. Such devices also include a transparent conductive oxide electrode ("TCO") positioned between a semiconductor layer and an electrode. The TCO layer enables the use of a smaller second electrode because it distributes current form the electrode to the semiconductor layer.

3. Foreign Counterparts to the Patent

68. The '348 patent and its related U.S. applications have a number of foreign counterparts. Those foreign patents and applications, as well as related U.S. applications and patents, are identified in Exhibit 3D.

H. U.S. Patent No. 7,768,025

1. Identification of the Patent and Ownership by LG Innotek and LGE

69. The '025 patent, titled "Light Emitting Diode Having Vertical Topology and Method of Making the Same," issued on August 3, 2010, to inventors Jun Ho Jang, Jae Wan Choi, Duk Kyu Bae, Hyun Kyong Cho, Jong Kook Park, Sun Jung Kim, and Jeong Soo Lee. The '025 patent is based on application no. 11/898,368, filed on September 11, 2007, which is a continuation of application no. 11/708,133, filed on February 20, 2007. The '025 patent claims priority to Korean Patent Application No. 10-2006-0057033, filed June 23, 2006, and Korean

Patent Application Nos. 10-2006-0093465 and 10-2006-009357, both filed on September 26, 2006.

70. The '025 patent has three independent claims and 26 dependent claims. Claims 1-7, 9, 11, 14-16, and 23 are being asserted in this investigation.

71. LG Innotek and LGE own by assignment the entire right, title, and interest in and to the '025 patent. *See* Exhibit 2H.

72. This Complaint is accompanied by a certified copy and three copies of the prosecution history of the '025 patent, including all parent applications, and four copies of each reference cited on the face of the '025 patent or mentioned in its prosecution history. *See* Appendices H and P.

2. Non-Technical Description of the Patent

73. The '025 patent generally concerns vertical semiconductor light emitting devices and an improved method of making such devices.

74. During fabrication of vertical LEDs, the insulating (sapphire) substrate is removed. This removal is often difficult and can damage the GaN semiconductor material. The '025 patent discloses an improved method for removing the substrate by creating an acoustic wave at the interface of the substrate and the GaN material while employing a high energy excimer laser such as KrF or ArF that separates the substrate from the GaN layer. This procedure maintains structural stability while facilitating the fabrication of LEDs having a vertical topology.

75. The '025 patent also discloses numerous additional features of light emitting devices and methods of fabrication. These features include a surface light extraction structure that may improve light-extraction efficiency and an integration electrode that may simplify the device structure.

3. Foreign Counterparts to the Patent

76. The '025 patent and its related U.S. applications have a number of foreign counterparts. Those foreign patents and applications, as well as related U.S. applications and patents, are identified in Exhibit 3E.

VI. LICENSES

77. Under Commission Rule 210.12(a)(9)(iii), a list of licensed entities is attached to this Complaint as Confidential Exhibit 4.

VII. UNLAWFUL AND UNFAIR ACTS OF RESPONDENT— PATENT INFRINGEMENT

Generally, the accused light-emitting devices are accused of infringing claims 1-2, 10-11, 13-15, 17-18, 20-23, 26-34, and 36-42 of the '465 patent; claims 1-12, 14-22, 24-30, 33, 35-36, 38-46, 49-50, 52-54, 57, 60-61, 63, 65-66, and 68-69 of the '364 patent; claims 1-2, 4, 11, 15, 17-18, 21, and 24 of the '802 patent; claims 1-4, 6, 8-12, 16-21, 24-29, and 31-37 of the '210 patent; claims 1-4, 6-10, 13-17, 19, 22-29, 32, 40, 42-45, and 48 of the '388 patent; claims 10-13, 19, 24-25, and 29 of the '024 patent; claims 1-2, 8-10, 12, 14, 18, and 20-24 of the '348 patent; and claims 1-7, 9, 11, 14-16, and 23 of the '025 patent.

78. On information and belief, OSRAM manufactures, sells for importation, imports, and/or sells after importation LEDs that infringe one or more of the asserted patents. For example, at least the LED4PAR16/830/NFL20/RP (L4PAR16 lighting product), LED2PAR16/830/FL30RP (L2PAR16 lighting product), LED3MR16/830/NSP6/RP (L3MR16 lighting product), LED1.5A/F/W/RP (L1.5A15 lighting product), LED1A/F/RGB/RP, LED2S14/627/RP (LT-L2S14 lighting product), L1A19 lighting product, OSLON PKG, LT-L8MR16 lighting product, LT-L2PAR20, and the LT-Dot-lt lighting product infringe one or more of the asserted patents. The identification of specific models or types of products is not

intended to limit the scope of the Investigation, and any remedy should extend to all infringing products.

79. A chart that applies independent claim 1 of the '465 patent to the accused OSRAM LED4PAR16/830/NFL/RP LED is attached to the Complaint as Exhibit 5A.

80. A chart that applies independent claim 1 of the '364 patent to the accused OSRAM LED4PAR16/830/NFL/RP LED is attached to the Complaint as Exhibit 5B.

81. A chart that applies independent claims 1 and 18 of the '802 patent to the accused OSRAM LED4PAR16/830/NFL/RP LED is attached to the Complaint as Exhibit 5C.

82. A chart that applies independent claims 1, 9, and 37 of the '210 patent to the accused OSRAM LED4PAR16/830/NFL/RP LED is attached to the Complaint as Exhibit 5D.

83. A chart that applies independent claims 1, 9, and 37 of the '210 patent to the accused OSRAM LED4PAR16/830/NFL/RP LED is attached to the Complaint as Exhibit 5D.

84. A chart applying independent claims 1 and 40 of the '388 patent to LED 2S14/627/RP and claims 24 and 42 of the '388 patent to LED1.5A15/F/W/RP is attached to the Complaint as Exhibit 5E.

85. A chart applying independent claims 10 and 19 of the '024 patent to LED4PAR16/830/NFL20/RP is attached to the Complaint as Exhibit 5F.

86. A chart applying independent claim 1 of the '348 patent to LED1.5A15/F/W/RP is attached to the Complaint as Exhibit 5G.

87. A chart applying independent claim 1 of the '025 patent to LED4PAR16/830/NFL20/RP is attached to the Complaint as Exhibit 5H.

88. On information and belief, OSRAM imports, markets, and sells the accused products in the United States, thereby directly infringing any claim requiring such operation.

VIII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE

89. On or around December 10, 2009, representatives for LG purchased several imported OSRAM LED4PAR16/830/NFL20/RP (L4PAR16 lighting product), LED2PAR16/830/FL30RP (L2PAR16 lighting product), LED3MR16/830/NSP6/RP (L3MR16 lighting product), LED1.5A/F/W/RP (L1.5A15 lighting product), LED1A/F/RGB/RP, LED2S14/627/RP (LT-L2S14 lighting product), L1A19 lighting product, LT-L8MR16 lighting product, LED2PAR20/630/FL30/RP (LT-L2PAR20), and the LT-Dot-lt lighting product and products containing same in the United States. Exhibit 6A includes copies of invoices for the purchase of products containing OSRAMs accused light-emitting devices, including the OSRAM Dot-It Black LED Battery Operated Stick On Tap Light, Ultra High Performance LED MR16 Bulb, LED A19 Color Changing Bulb, Ultra High Performance LED PAR16, Accent LED G5.3 Base MR 16 Bulb, LED White A15 Bulb, Accent LED PAR 16 Bulb, Accent LED PAR20 Flood Light, and a series of photographs of the LED and the boxes in which the LEDs were delivered. The boxes display the Sylvania logo and indicate that the products were imported by Sylvania. The label on the light bulbs indicates that they were made in China (LED8MR16/830/FL35/RP, LED2S14/627/RP, LED1A/F/RGB/RP, LED2PAR16/830/FL30RP, LED1.5A15/F/W/RP, LED2PAR20/630/FL30/RP, LED3MR16/830/NSP6/RP).

90. On or about July 26, 2011, a representative of LG purchased an additional OSRAM LED4PAR16/830/NFL20/RP (L4PAR16 lighting product). Photographs of this product are attached as Exhibit 6B, and a physical sample is submitted with this Complaint as Appendix P1.

IX. HARMONIZED TARIFF SCHEDULE ITEM NUMBERS

91. On information and belief, the Harmonized Tariff Schedule of the United States ("HTSUS") item numbers under which the infringing wireless devices or components thereof may be imported into the United States may be at least HTSUS 8541 and subsections thereof

(including at least 8541.40.20), HTSUS 8528 and subsections thereof, and HTSUS 8517 and subsections thereof. These classifications are intended for illustration only and are not intended to be restrictive of the accused products.

X. RELATED LITIGATION

92. There has been no prior court or agency litigation, domestic or foreign, involving the specific unfair acts asserted in this Complaint. On the same day that this complaint is filed with the Commission, LG intends to file a complaint against OSRAM asserting infringement of the same patents in the United States District Court for the District of Delaware.

93. While not involving the Asserted Patents, LG and OSRAM are involved in two currently-pending investigations before the Commission and one other currently pending district court case: (1) *Certain Light-Emitting Diodes and Products Containing Same*, Inv. No. 337-TA-784; (2) *Certain Light-Emitting Diodes and Products Containing Same*, Inv. No. 337-TA-785; and (3) *OSRAM GmbH v. LG Electronics, Inc., et al.*, Case No. CV11-02699 MEJ, U.S. District Court for the Northern District of California. In each of those proceedings, Osram has accused LG of infringing certain OSRAM patents.

XI. THE DOMESTIC INDUSTRY

94. A domestic industry exists a defined by 19 U.S.C. § 1337(a)(3)(A), (B), and (C) relating to significant investment in plant and equipment, significant employment of labor and capital, and substantial investment in the exploitation of the patents through engineering, and research and development related to certain LGE televisions, monitors, and mobile devices that include LEDs covered by the Asserted Patents.

A. Technical Prong

95. LGE sells in the United States certain LCD televisions and LCD monitors that include LEDs that practice at least one claim of certain of the Asserted Patents. LGE also sells

or performs research and development with respect to certain mobile devices that include LEDs that practice at least one claim of the other Asserted Patents. As a result, there is domestic activity with respect to LG products that are covered by at least one claim of all the Asserted Patents.

96. For example, LG has engaged in substantial investments in the United States with respect to cellular phone C800, which will be introduced later in 2011. The C800 includes an LG Innotek LED with an internal designation of LGE Part No. EDLM0009602.

97. LG has also engaged in substantial investments in the United States with respect to certain LED televisions and monitors that include an LG Innotek 5630 LED package.

98. A chart that applies independent claim 1 of the '465 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7A.

99. A chart that applies independent claim 1 of the '364 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7B.

100. A chart that applies independent claim 1 of the '802 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7C.

101. A chart that applies independent claim 9 of the '210 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7D.

102. A chart that applies independent claim 24 of the '388 patent to the representative LG Innotek 5630 LED package is attached to the Complaint as Exhibit 7E.

103. A chart that applies independent claim 10 of the '024 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7F.

104. A chart that applies independent claim 1 of the '348 patent to the representative LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7G.

105. A chart that applies independent claim 1 of the '025 patent to the LGE Part No. EDLM0009602 is attached to the Complaint as Exhibit 7H.

106. That attached charts apply to representative examples of products covered by the Asserted Patents. Other LG products may also include LEDs covered by the Asserted Patents.

B. Economic Prong

107. LGE conducts significant domestic industry activities in the United States through its wholly-owned subsidiaries LG Electronics U.S.A., Inc., LG Electronics Alabama, Inc., LG Electronics Mobilecomm U.S.A., and LG Electronics Mobile Research U.S.A., LLC, relating to products practicing the Asserted Patents. These activities include LGE's investment in plant and equipment, employment of labor and capital, and substantial investment in the exploitation of the Asserted Patents through research and development and engineering.

108. With respect to its LCD televisions and monitors, LGE, through its subsidiary LG Electronics Alabama, Inc., has made and continues to make significant investment in plant and equipment in the United States dedicated to the product support, testing and quality management, warranty and repair service, and engineering of those products. The facilities and equipment used in connection with these activities are located in Huntsville, Alabama and Rancho Cucamonga, California. LGE also has invested significant capital in those facilities and has employed and continues to employ a significant number of employees in those facilities that devote substantial man-hours towards product support, testing and quality management, and warranty and repair services for LCD televisions and monitors that include LEDs that are covered by one or more of the Asserted Patents. A more detailed description of that domestic activity is set forth in Confidential Exhibit 8.

109. With respect to its mobile devices, LGE, through its LG Alabama subsidiary, also has invested in plant and equipment and employed labor and capital related to product support,

testing, quality management, warranty and repair service, and engineering. In addition to the Huntsville and Rancho Cucamonga facilities, LG Alabama also has a facility in Dallas/Ft. Worth, Texas devoted to service, repair, and engineering of mobile devices. A more detailed description of that domestic activity is set forth in Confidential Exhibit 8.

110. In addition to LG Alabama's activities with respect to product support, service, repair and engineering, LGE's subsidiaries LG Mobilecomm U.S.A. and LG Mobile Research U.S.A., LLC have also made and continue to make significant investment in plant and equipment, employment of labor and capital, and substantial investment in the exploitation of the Asserted Patents through research and development and engineering in the United States. Specifically, LG Mobilecomm and LG Mobile Research have facilities in San Diego, California, Morristown, New Jersey, Overland Park, Kansas, Atlanta, Georgia, and Bolingbrook, Illinois, dedicated to the research, development, design, product support, testing and development of specifications for LGE's mobile devices, including mobile devices containing LEDs covered by certain of the Asserted Patents. A more detailed description of that domestic activity is set forth in Confidential Exhibit 8.

XII. RELIEF REQUESTED

111. WHEREFORE, by reason of the foregoing, Complainant LG respectfully requests that the United States International Trade Commission:

(a) Institute an immediate Investigation under Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337(a)(1)(B)(i) and (b)(1) with respect to violations of Section 337 based upon the importation, sale for importation, and sale after importation into the United States of infringing light emitting devices and products containing same that infringe one or more of the asserted claims of LG's U.S. Patent No. 7,928,465; U.S. Patent No. 7,956,364; U.S. Patent No.

6,841,802; U.S. Patent No. 7,649,210; U.S. Patent No. 7,884,388; U.S. Patent No. 7,821,024; U.S. Patent No. 7,868,348; and U.S. Patent No. 7,768,025.

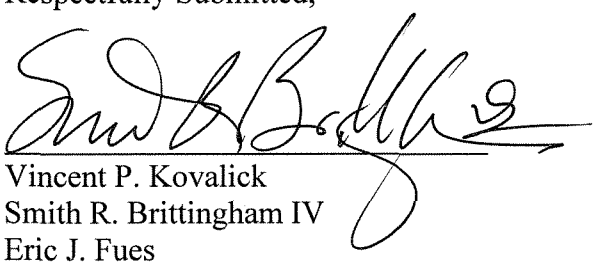
(b) Schedule and conduct a hearing on said unlawful acts and, following said hearing;

(c) Issue a permanent exclusion order under 19 U.S.C. § 1337(d)(1) barring from entry into the United States all infringing light emitting devices and products containing same imported by or on behalf of the respondent or its affiliates;

(d) Issue a permanent cease-and-desist order, under 19 U.S.C. § 1337(f), directing each respondent to cease and desist from importing, marketing, advertising, demonstrating, warehousing inventory for distribution, offering for sale, selling, distributing, licensing, or using light emitting devices and products containing same that infringe one or more claims of the asserted patents; and

(e) Grant such other and further relief as the Commission deems just and proper based on the facts determined by the Investigation and the authority of the Commission.

Respectfully Submitted,



Dated: July 27, 2011

Vincent P. Kovalick
Smith R. Brittingham IV
Eric J. Fues
Elizabeth A. Niemeyer
Maximilienne Bishop
Finnegan, Henderson, Farabow,
Garrett, & Dunner L.L.P.
901 New York Avenue, N.W.
Washington, DC 20001-4413
Telephone: (202) 408-4000
Facsimile: (202) 408-4400

Counsel for Complainants
LG Electronics, Inc. and
LG Innotek Co., Ltd.